

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended): An information processing system comprising:
an information processing apparatus which is used to operate a plurality of applications to request data input/output to/from a storage; and
a management host which manages said storage,
wherein said storage comprises at least one port and at least one array group including a plurality of disk units;
wherein said information processing apparatus accesses, via said at least one port, a virtual area provided by said at least one array group;
wherein said storage and said information processing apparatus constitute an access process section for processing an access request from ~~an~~ a first application;
wherein said access process section includes said at least one port and said at least one array group;
wherein said information processing apparatus comprises an access monitoring section which monitors ~~an~~ said access request from said first application and obtains information about said access request for each of said plurality of applications; and
wherein said management host comprises:
an acceptance section which accepts specification of a second application, said second application being a new application;
a current load calculation section which calculates a first current amount of

~~data accessed from said application to of said storage accessed by said first application, using said for each of said applications based on~~ information obtained by said access monitoring section;

an estimated load calculation section which calculates both ~~each of an~~ estimated amount of data ~~accessed from said application to of~~ said storage accessed in said port and an estimated amount of data accessed in said array group, in case of addition of said ~~new~~ second application,

wherein if there is a second current amount of data available to said second application, said estimated load calculation section calculates the estimated amount of data by adding ~~based on said first~~ current amount of data calculated by said current load calculation section and said second current amount of data available to said second application ~~based on information obtained by said access monitoring section, and~~

~~wherein in case there is no if said second~~ current amount of data is not available to said second application ~~whose estimated amount of data needs to be calculated~~, said estimated load calculation section calculates the estimated amount of data by using adding a third current amount of data of a third said application, said third application having an approximate current amount of data; and

a load data output section which outputs each of the estimated amount of data in said port and the estimated amount of data in said array group calculated by said estimated load calculation section,

wherein in case said information processing apparatus accesses, via a specific port, said virtual area provided by said array group corresponding to said specific port, said load data output section outputs a combination of available ports

and array groups.

2-3. (canceled).

4. (previously presented): The information processing system according to claim1,

wherein each of said port and said array group includes a plurality of configurations having similar functions;

wherein said configurations for said at least one port and said at least one array group comprise a configuration information storage section which stores information about available combinations capable of processing said access request; and

wherein said estimated load calculation section calculates estimated amount of data with respect to said available combinations of said configurations for said at least one port and said at least one array group.

5. (currently amended): An information processing system comprising:
a storage which stores a database and comprises at least one port and at least one array group including a plurality of disk units;

a plurality of information processing apparatuses which are used to operate an a plurality of applications requesting data input/output to/from said storage and access, via said at least one port, a virtual area provided by said at least one array group; and

a management host which manages said storage,

wherein each of said information processing apparatuses comprises:

a database management system which processes an access request from ~~said a first~~ application to said database and includes said at least one port and said at least one array group;

an access monitoring section which monitors ~~an said~~ access request sent from said first application to said database management system and obtains information about said access request; and

an access information output section which collects information about said access request and adds up said information correspondingly to said first application, and

wherein said management host comprises:

an acceptance section which accepts specification of a second application, said second application being a new application;

a current load calculation section which calculates a first current amount of data ~~accessed from said application to of~~ said storage accessed by said first application, using said ~~for each of said applications based on~~ information obtained by said access monitoring section;

an estimated load calculation section which calculates both each of an estimated amount of data ~~accessed from said application to of~~ said storage accessed in said port and an estimated amount of data accessed in said array group,

wherein if there is a second current amount of data available to said second application, said estimated load calculation section calculates the estimated amount of data by adding said first current amount of data calculated by said current load calculation section and said second current amount of data available to said second application ~~based on information obtained by said access~~

monitoring section, and

wherein ~~in case there is no~~ if said second current amount of data is not available to said second application ~~whose estimated amount of data needs to be calculated~~, said estimated load calculation section calculates the estimated amount of data by ~~using~~ adding a third current amount of data of ~~said a third~~ application, said third application having an approximate current amount of data;

a load data output section which outputs each of the estimated amount of data in said port and the estimated amount of data in said array group calculated by said estimated load calculation section,

wherein in case said information processing apparatus accesses, via a specific port, said virtual area provided by said array group corresponding to said specific port, said load data output section outputs a combination of available ports and array groups; and

a configuration setup section which sets up a change in configuration of said storage based on the estimated amount of data calculated by said estimated load calculation section.

6. (currently amended): An information processing system comprising:
a storage which stores a file and comprises at least one port and at least one array group including a plurality of disk units;

a plurality of information processing apparatuses which are used to operate an a plurality of applications requesting input/output of data stored in a file to/from said storage and access, via said at least one port, a virtual area provided by said at least one array group; and

a management host which manages said storage,

wherein each of said information processing apparatuses comprises:

a file system which processes an access request from said a first application to said file and includes said at least one port and said at least one array group;

an access monitoring section which monitors an said access request sent from said ~~file system~~ first application to said ~~storage file~~ and obtains information about said access request; and

an access information output section which collects information about said access request and adds up said information correspondingly to said first application,

wherein said management host comprises:

an acceptance section which accepts specification of a second application, said second application being a new application;

a current load calculation section which calculates a first current amount of data for each of said ~~applications based on said first application~~, using information obtained by said access monitoring section;

an estimated load calculation section which calculates both each of an estimated amount of data ~~accessed from said application to of~~ said storage accessed in said port and an estimated amount of data accessed in said array group, in case of addition of said ~~new~~ second application,

wherein if there is a second current amount of data available to said second application, said estimated load calculation section calculates the estimated amount of data by adding based on said first current amount of data calculated by said current load calculation section and said second current amount of data available to said second application ~~based on information obtained by said access~~

monitoring section, and

wherein ~~in case there is no~~ if said second current amount of data is not available to said application ~~whose estimated amount of data needs to be~~ calculated, said estimated load calculation section calculates the estimated amount of data by ~~using~~ adding a third current amount of data of ~~said a third~~ application, said third application having an approximate current amount of data;

a load data output section which outputs the estimated amount of data in said port and the estimated amount of data in said array group calculated by said estimated load calculation section,

wherein in case said information processing apparatus accesses, via a specific port, said virtual area provided by said array group corresponding to said specific port, said load data output section outputs a combination of available ports and array groups; and

a configuration setup section which sets up a change in configuration of said storage based on estimated amount of data calculated by said estimated load calculation section.

7. (currently amended): A control method of an information processing system, the system comprising an information processing apparatus which is used to operate a plurality of applications to request data input/output to/from a storage and a management host which manages said storage,

wherein said storage comprises at least one port and at least one array group including a plurality of disk units,

wherein said information processing apparatus accesses, via said at least one port, a virtual area provided by said at least one array group,

said method comprising the steps of:

monitoring an access request from each of said applications;

obtaining information about said access request for each of said applications;

calculating a first current amount of data ~~accessed from each of said applications to of~~ said storage accessed by ~~for each of said applications, in case of addition of said new application based on using~~ information about said obtained access request for each of said applications, respectively;

accepting specification of a new application;

calculating an estimated amount of data ~~accessed from each of said applications to of~~ said storage accessed for each said applications, in case of addition of said new application;

calculating the estimated amount of data by adding said first current amount of data and a second current amount data of the new application, if there is a second current amount of data available to said new application based on information about said obtained access request;

calculating the estimated amount of data by ~~using~~ adding a third current amount of data of ~~said a third~~ application, said third application having an approximate current amount of data, ~~in case there is no if said second~~ current amount of data is not available to said second application ~~whose estimated amount of data needs to be calculated;~~

calculating each of an estimated amount of data in said port and an estimated amount of data in said array group in case of addition of said new application based on said calculated current data and information about said obtained access request;

outputting said calculated each of the estimated amount of data in said port and the estimated amount of data in array group; and

outputting a combination of available ports and array groups, in case said information processing apparatus accesses, via a specific port, said virtual area provided by an array group corresponding to said specific port.

8. (previously presented): The control method according to claim 7, wherein said estimated amount of data is calculated in case of addition of a said new application for each of said at least one port and said at least one array group to process in series said access request and for available combinations of configurations of said at least one port and said at least one array group.

9. (currently amended): A machine readable medium tangibly embodying at least one sequence of instruction for calculating load data in an information processing system, the system comprising an information processing apparatus which is used to operate a plurality of applications to request data input/output to/from a storage and a management host which manages said storage,

wherein said storage comprises at least one port and at least one array group including a plurality of disk units,

wherein said information processing apparatus accesses, via said at least one port, a virtual area provided by said at least one array group, and

wherein the sequence of instruction, when executed, causes the management host to:

monitor an access request from said a first application and obtaining

information about said access request for each of said applications;

calculate a first current amount of data accessed from said application to of
said storage accessed by said first application, using for each of said applications
~~based on information about said obtained access request;~~

accept specification of a second application, said second application being
a new application;

calculate an estimated amount of data ~~accessed from said application to of~~
said storage accessed for each of said applications, in case of addition of said new
application;

calculate the estimated amount of data by adding said first current amount
of data and a second current amount of data of the second application, if there is a
second current amount of data available to said second application; based on
~~information about said obtained access request;~~

calculate the estimated amount of data by using adding a third current
amount of data of ~~said a third application, said third application~~ having an
approximate current amount of data, ~~in case there is no if said second current~~
amount of data is not available to said second application ~~whose estimated~~
~~amount of data needs to be calculated;~~

calculate ~~each of both~~ an estimated amount of data in said port and an
estimated amount of data in said array group, in case of addition of said new
second application based on said calculated current amount of data and
~~information about said obtained access request;~~

output said calculated estimated amount of data in said port and said
estimated amount of data in said array group; and

output a combination of available ports and array groups, in case said

information processing apparatus accesses, via a specific port, said virtual area provided by an array group corresponding to said specific port.

10. (currently amended): The machine readable medium according to claim 9,

wherein in said sequence of instruction that causes the management host to calculate the estimated amount of data, said sequence of instruction further ~~cause~~ causes the management host to calculate the estimated amount of data in case of addition of a said new application for each of said at least one port and said at least one array group to process in series said access request and for available combinations of configurations of said at least one port and said at least one array group.